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1. An apparatus comprising:
  - (A) an ND filter which limits incident light;
  - (B) an iris which limits the incident light;and
  - (C) a changing device which changes a state of limitation of the incident light by said iris at a first changing speed, said changing device, when a state of limitation of the incident light by said ND filter is changed, changing the state of limitation of the incident light by said iris at a second changing speed different from the first changing speed.
2. An apparatus according to claim 1, wherein said changing device, when the state of limitation of the incident light by said ND filter is changed, changes the state of limitation of the incident light by said iris at a speed higher than the first changing speed.
3. An apparatus according to claim 1, wherein said apparatus includes an image pickup apparatus.
4. An apparatus according to claim 1, wherein said apparatus includes an optical apparatus.
5. A control method for a quantity-of-light adjusting apparatus having an iris and an ND filter which

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limit incident light, said control method comprising:

changing a state of limitation of the incident light by said iris at a first changing speed, and, when a state of limitation of the incident light by said ND filter is changed, changing the state of limitation of the incident light by said iris at a second changing speed different from the first changing speed.

6. A computer program product providing a control program for a quantity-of-light adjusting apparatus having an iris and an ND filter which limit incident light, said control program comprising a process of:

changing a state of limitation of the incident light by said iris at a first changing speed, and, when a state of limitation of the incident light by said ND filter is changed, changing the state of limitation of the incident light by said iris at a second changing speed different from the first changing speed.

7. A computer program product according to claim 6, wherein said computer program product includes a storage medium.

8. An apparatus comprising:

(A) a first changing device which changes a state of limitation of incident light by an ND filter which limits the incident light; and

(B) a second changing device which changes, at

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a first changing speed, a state of limitation of the incident light by an iris which limits the incident light, said second changing device, when the state of limitation of the incident light by said ND filter is changed by said first changing device, changing the state of limitation of the incident light by said iris at a second changing speed different from the first changing speed.

9. An apparatus according to claim 8, wherein said second changing device, when the state of limitation of the incident light by said ND filter is changed by said first changing device, changes the state of limitation of the incident light by said iris at a speed higher than the first changing speed.

10. An apparatus according to claim 8, wherein said apparatus includes an image pickup apparatus.

11. An apparatus according to claim 8, wherein said apparatus includes an optical apparatus.

12. An apparatus comprising:

- (A) an ND filter which limits incident light;
- (B) a light receiving sensor which receives the incident light; and
- (C) a changing device which changes a gain of output of said light receiving sensor at a first changing

speed, said changing device, when a state of limitation of the incident light by said ND filter is changed, changing the gain of output of said light receiving sensor at a second changing speed different from the first changing speed.

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13. An apparatus according to claim 12, wherein said changing device, when the state of limitation of the incident light by said ND filter is changed, changes the gain of output of said light receiving sensor at a speed higher than the first changing speed.

14. An apparatus according to claim 12, wherein said apparatus includes an image pickup apparatus.

15. An apparatus according to claim 12, wherein said apparatus includes an optical apparatus.

16. A control method for a quantity-of-light adjusting apparatus having an ND filter which limits incident light and a light receiving sensor which receives the incident light, said control method comprising:

changing a gain of output of said light receiving sensor at a first changing speed, and, when a state of limitation of the incident light by said ND filter is changed, changing the gain of output of said light receiving sensor at a second changing speed

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different from the first changing speed.

17. A computer program product providing a control program for a quantity-of-light adjusting apparatus having an ND filter which limits incident light and a light receiving sensor which receives the incident light, said computer program product comprising a process of:

changing a gain of output of said light receiving sensor at a first changing speed, and, when a state of limitation of the incident light by said ND filter is changed, changing the gain of output of said light receiving sensor at a second changing speed different from the first changing speed.

18. A computer program product according to claim 17, wherein said computer program product includes a storage medium.

19. An apparatus comprising:

(A) a first changing device which changes a state of limitation of incident light by an ND filter which limits the incident light; and

(B) a second changing device which changes, at a first changing speed, a gain of output of a light receiving sensor which receives the incident light, said second changing device, when the state of limitation of the incident light by said ND filter is changed by said first changing device, changing the gain of output of

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said light receiving sensor at a second changing speed different from the first changing speed.

20. An apparatus according to claim 19, wherein said second changing device, when the state of limitation of the incident light by said ND filter is changed by said first changing device, changes the gain of output of said light receiving sensor at a speed higher than the first changing speed.

21. An apparatus according to claim 19, wherein said apparatus includes an image pickup apparatus.

22. An apparatus according to claim 19, wherein said apparatus includes an optical apparatus.

23. An optical unit adapted to be mounted on an image pickup apparatus, comprising:

(A) an ND filter which limits incident light;  
and

(B) a transmission device which transmits color information of said ND filter to said image pickup apparatus.

24. An optical unit according to claim 23, wherein said ND filter is capable of changing a state of limitation of the incident light, and said transmission device transmits, to said image pickup apparatus,

information on the state of limitation of the incident light by said ND filter.

25. An optical unit according to claim 24, wherein said ND filter is capable of being inserted into and detached from an optical path of said optical unit.

26. An optical unit according to claim 24, wherein said ND filter has a variable density.

27. An optical unit according to claim 24, wherein said ND filter includes an electrochromic element.

28. An optical unit according to claim 23, wherein said optical unit is detachably mounted on said image pickup apparatus.

29. A control method for an optical unit having an ND filter which limits incident light and adapted to be mounted on an image pickup apparatus, said control method comprising:

transmitting color information of said ND filter to said image pickup apparatus.

30. A computer program product providing a control program for an optical unit having an ND filter which limits incident light and adapted to be mounted on an image pickup apparatus, said computer program product

comprising a process of:

transmitting color information of said ND filter to said image pickup apparatus.

31. A computer program product according to claim 30, wherein said computer program product includes a storage medium.

32. An image pickup apparatus on which an optical unit having an ND filter which limits incident light is mounted, said image pickup apparatus comprising:

(A) a receiving device which receives color information of said ND filter from said optical unit; and

(B) a correction device which corrects, on the basis of the color information of said ND filter received by said receiving device, white balance of an image taken in through said optical unit.

33. An image pickup apparatus according to claim 32, further comprising:

an image pickup part which converts an optical image taken in through said optical unit into an image signal, said correction device correcting said image signal.

34. A control method for an image pickup apparatus on which an optical unit having an ND filter which limits incident light is mounted, said control method

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comprising:

receiving color information of said ND filter from said optical unit, and correcting, on the basis of the received color information of said ND filter, white balance of an image taken in through said optical unit.

35. A computer program product providing a control program for an image pickup apparatus on which an optical unit having an ND filter which limits incident light is mounted, said computer program product comprising a process of:

receiving color information of said ND filter from said optical unit, and correcting, on the basis of the received color information of said ND filter, white balance of an image taken in through said optical unit.

36. A computer program product according to claim 35, wherein said computer program product includes a storage medium.

37. An image pickup system comprising:

(A) an optical unit having an ND filter which limits incident light, and a transmission device which transmits color information of said ND filter to an image pickup apparatus; and

(B) said image pickup apparatus having a receiving device which receives color information of said ND filter from said optical unit, and a correction device

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transmitted from said optical unit and to correct, on the basis of the received color information of said ND filter, white balance of an image taken in through said optical unit.

40. A computer program product according to claim 39, wherein said computer program product includes a storage medium.

41. An apparatus comprising:

- (A) an ND filter which limits incident light;
- (B) an iris which limits the incident light;

and

(C) a control device which determines an operating state of said ND filter, and controls an operation of said iris according to a result of the determination.

42. An apparatus according to claim 41, wherein said control device determines the operating state of said ND filter according to an operating position of said ND filter.

43. An apparatus according to claim 41, wherein said control device controls the operation of said iris in such a way as to cancel a change of an amount of limitation of the incident light by said ND filter with a change of an amount of limitation of the incident light

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by said iris.

44. An apparatus according to claim 41, wherein said apparatus includes an image pickup apparatus.

45. An apparatus according to claim 41, wherein said apparatus includes an optical apparatus.

46. A control method for a quantity-of-light adjusting apparatus having an ND filter which limits incident light and an iris which limits the incident light, said control method comprising:

determining an operating state of said ND filter, and controlling an operation of said iris according to a result of the determination.

47. A computer program product providing a control program for a quantity-of-light adjusting apparatus having an ND filter which limits incident light and an iris which limits the incident light, said computer program product comprising a process of:

determining an operating state of said ND filter, and controlling an operation of said iris according to a result of the determination.

48. A computer program product according to claim 47, wherein said computer program product includes a storage medium.

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49. An apparatus comprising:

(A) a determining device which determines an operating state of an ND filter which limits incident light; and

(B) a control device which controls an operation of an iris which limits the incident light, according to a result of the determination.

50. An apparatus according to claim 49, wherein said determining device determines the operating state of said ND filter according to an operating position of said ND filter.

51. An apparatus according to claim 49, wherein said control device controls the operation of said iris in such a way as to cancel a change of an amount of limitation of the incident light by said ND filter with a change of an amount of limitation of the incident light by said iris.

52. An apparatus according to claim 49, wherein said apparatus includes an image pickup apparatus.

53. An apparatus according to claim 49, wherein said apparatus includes an optical apparatus.

54. An apparatus comprising:

(A) an ND filter which limits incident light;

(B) a light receiving sensor which receives the incident light; and

(C) a control device which determines an operating state of said ND filter, and controls a gain of output of said light receiving sensor according to a result of the determination.

55. An apparatus according to claim 54, wherein said control device determines the operating state of said ND filter according to an operating position of said ND filter.

56. An apparatus according to claim 54, wherein said control device controls the gain of output of said light receiving sensor in such a way as to cancel a change of an amount of limitation of the incident light by said ND filter with a change of the gain of output of said light receiving sensor.

57. An apparatus according to claim 54, wherein said apparatus includes an image pickup apparatus.

58. An apparatus according to claim 54, wherein said apparatus includes an optical apparatus.

59. A control method for a quantity-of-light adjusting apparatus having an ND filter which limits incident light and a light receiving sensor which

receives the incident light, said control method comprising:

determining an operating state of said ND filter, and controlling a gain of output of said light receiving sensor according to a result of the determination.

60. A computer program product providing a control program for a quantity-of-light adjusting apparatus having an ND filter which limits incident light and a light receiving sensor which receives the incident light, said computer program product comprising a process of:

determining an operating state of said ND filter, and controlling a gain of output of said light receiving sensor according to a result of the determination.

61. A computer program product according to claim 60, wherein said computer program product includes a storage medium.

62. An apparatus comprising:

(A) a determining device which determines an operating state of an ND filter which limits incident light; and

(B) a control device which controls a gain of output of a light receiving sensor which receives the incident light, according to a result of the

determination provided by said determining device.

63. An apparatus according to claim 62, wherein said determining device determines the operating state of said ND filter according to an operating position of said ND filter.

64. An apparatus according to claim 62, wherein said control device controls the gain of output of said light receiving sensor in such a way as to cancel a change of an amount of limitation of the incident light by said ND filter with a change of the gain of output of said light receiving sensor.

65. An apparatus according to claim 62, wherein said apparatus includes an image pickup apparatus.

66. An apparatus according to claim 62, wherein said apparatus includes an optical apparatus.

67. An apparatus comprising:

- (A) an ND filter which limits incident light;
- (B) an iris which limits the incident light, said iris being capable of operating independent of said ND filter; and
- (C) a control device which determines an operating state of said iris and controls an operation of said ND filter according to a result of the

determination.

68. An apparatus according to claim 67, wherein said control device determines the operating state of said iris according to an operating position of said iris.

69. An apparatus according to claim 67, wherein said control device makes said ND filter active in response to determining that an aperture of said iris has become small up to a predetermined aperture.

70. An apparatus according to claim 67, wherein said control device makes said ND filter inactive in response to determining that an aperture of said iris has become large up to a predetermined aperture.

71. An apparatus according to claim 67, wherein said apparatus includes an image pickup apparatus.

72. An apparatus according to claim 67, wherein said apparatus includes an optical apparatus.

73. A control method for a quantity-of-light adjusting apparatus having an iris which limits incident light and an ND filter which is capable of operating independent of said iris, said control method comprising:  
determining an operating state of said iris, and

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controlling an operation of said ND filter according to a result of the determination.

74. A computer program product providing a control program for a quantity-of-light adjusting apparatus having an iris which limits incident light and an ND filter which is capable of operating independent of said iris, said computer program product comprising a process of:

determining an operating state of said iris, and controlling an operation of said ND filter according to a result of the determination.

75. A computer program product according to claim 74, wherein said computer program product includes a storage medium.

76. An apparatus comprising:

(A) a determining device which determines an operating state of an iris which limits incident light; and

(B) a control device which controls, according to a result of the determination provided by said determining device, an ND filter which limits the incident light and is capable of operating independent of said iris.

77. An apparatus according to claim 76, wherein

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said determining device determines the operating state of said iris according to an operating position of said iris.

78. An apparatus according to claim 76, wherein said control device makes said ND filter active in response to determining that an aperture of said iris has become small up to a predetermined aperture.

79. An apparatus according to claim 76, wherein said control device makes said ND filter inactive in response to determining that an aperture of said iris has become large up to a predetermined aperture.

80. An apparatus according to claim 76, wherein said apparatus includes an image pickup apparatus.

81. An apparatus according to claim 76, wherein said apparatus includes an optical apparatus.